

REMARKS

Claims 1, 3, 6 and 7 are in this application and are presented for consideration. By this amendment, Applicant has amended claim 1 to include the features of claims 2, 4 and 5. Accordingly, claims 2, 4 and 5 have been canceled. It is Applicant's position that the changes to claim 1 do not raise new issues as the features of claim 2, 4 and 5 have already been considered in the previous Office Action. Applicant has also canceled claims 8-17 and 24.

Claim 13 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has canceled claim 13.

Claims 1, 2, 7-9 and 11-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Campo et al. (U.S. 5,800,627) in view of Payzant (U.S. 5,259,889).

The present invention relates to a cleaning apparatus for cleaning a member used in the semiconductor field. The apparatus comprises an air curtain produced at one end of the housing and a plurality of water curtains that define various sections of a housing within which the cleaning process takes place. The air curtain and the first water curtain define a precleaning section of the housing. The first water curtain and the second water curtain define a cleaning section of the housing. The second water curtain and the third water curtain define a rinsing section of the housing. The third water curtain and another end of the housing define a drying section of the housing. This advantageously ensures that any small water droplets that adhere

to a member moved through the cleaning process in the housing are completely removed. This advantageously provides for a more thoroughly cleaned member that meets extremely high cleanliness standards such that the member can be used in clean room applications.

Campo et al. discloses an aqueous wash machine 10 comprising a cabinet 12 having a wall structure forming a plurality of separate, substantially enclosed, work stations. The work stations comprise a pre-wash compartment 14, a wash compartment 16, a rinse compartment 18, a final rinse compartment 20, an air drying compartment 22, a radiant heat drying compartment 24 and an air drying station 26. Air under pressure is conducted to tubular members 87 and 95 through lines 89 and 97, and is forced through slotted openings in the members to form a curtain of air separating the wash compartment 16 from the rinse compartment 18, and the rinse compartment 18 from the final rinse compartment 20.

Campo et al. fails to provide any teaching or suggestion for the combination of an air curtain located at one end of a housing and a first water curtain that define a pre-cleaning section of a housing. At most, Campo et al. discloses an air curtain that separates a wash compartment 16 from a rinse compartment 18 and another air curtain that separates the rinse compartment 18 from a final rinse compartment 20. However, Campo et al. fails to provide any teaching or suggestion for the air curtain being located at one end of the cabinet 12 as claimed. As clearly shown in Figure 1 of Campo et al., an air curtain is located between wash compartment 16 and rinse compartment 18 and between final rinse compartment 20 and rinse compartment 18. This is a completely different approach than that of the present invention. In contrast to Campo et al., the air curtain and a first water curtain of the present invention define a pre-

cleaning section of a housing. This air curtain being located at one end of the housing is significant in the present invention because it advantageously removes any contaminants from the member before the member is subjected to the cleaning process in the housing. This advantageously provides for a significantly cleaner member once the member has been passed through the housing. Campo et al. fails to disclose such cleaning advantages since Campo et al. is completely void of any teaching or suggestion for arranging the air curtain at one end of the cabinet 12 such that the air curtain and a first water curtain define the pre-wash compartment 14 as claimed. In fact, Campo et al. fails to mention that water curtains are used to define any of the sections of the cabinet 12 as recited in the claimed combination. As such, the prior art as a whole takes a different approach and fails to establish a *prima facie* case of obviousness as the prior art as a whole does not teach or suggest important features of the present invention.

Payzant fails to teach or suggest the combination of a first water curtain and an air curtain located at one end of a housing that define a precleaning section of the housing. Payzant merely discloses a conveyor dishwashing machine in which racks of dishes are conveyed from a loading surface through a hood which presents washing and rinsing zones and onto a discharge surface. In the rinsing zone 110 of Payzant, a rinse curtain 204 applies an initial rinse and creates a barrier between a washing compartment 108 and the rinsing compartment 110. However, the rinse curtain 204 of Payzant fails to be arranged with an air curtain at one end of the hood 20 as claimed. In contrast to Payzant, the air curtain of the present invention is located at one end of a housing and defines a precleaning section of the

housing with a first water curtain. This advantageously ensures that the member is completely free of any water or contaminants that might adhere to the member. This advantageously allows the member to meet extremely high hygienic standards so that the member can be used in clean room applications. Payzant fails to disclose such cleaning advantages since Payzant is completely void of any teaching or suggestion for an air curtain and a first water curtain that define a precleaning section or a plurality of other water curtains that define various other sections of a housing as claimed. The references as a whole fail to provide any suggestion of using the teachings of Payzant to modify the wash machine of Campo et al. In fact, the combination of Payzant and Campo et al. only directs the person of ordinary skill in the art toward an arrangement of a water curtain and an air curtain in the middle of a wash machine. However, neither Payzant nor Campo et al. directs a person of ordinary skill in the art toward an air curtain located at one end of the housing that cooperates with a first water curtain to define a precleaning section as featured in the claimed combination. As such, the prior art as a whole fails to establish a *prima facie* case of obviousness since the prior art as a whole does not teach or suggest each and every feature of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claim 1 as now presented and all claims that depend thereon.

Claims 3-5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Campo et al. in view of Payzant, and further in view of JP-2003-017459 (hereinafter "JP '459").

As previously discussed, Campo et al. and Payzant do not teach or suggest the combination of a first water and an air curtain that are arranged to define a precleaning section

of a housing. JP '459 also fails to teach or suggest such features of the present invention. In fact, JP '459 does not provide any teaching or suggestion for a pressure of a jetted cleaning liquid that is in the range from 0.2 to 0.4 Mpa. Applicant has attached an English translation of JP '459. Paragraph [0021] of the English translation of JP '459 clearly states that a pressure of 3-50 Mpa is injected as a high voltage particle jet 30. This extremely high pressure range fails to read on Applicant's claimed pressure range of jetted cleaning liquid. As such, the prior art as a whole fails to establish a *prima facie* case of obviousness as the prior art as a whole does not teach or suggest important features of the present invention. Accordingly, all claims define over the prior art as a whole.

Claims 6, 10 and 24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Campo et al. in view of Payzant and JP '459, and further in view of Varpio (U.S. 6,530,996) and Bryer et al. (U.S. 2001/0047812).

As previously discussed above, Campo et al., Payzant and JP '459 fail to disclose each and every feature of the present invention. Varpio also fails to teach or suggest the combination of an air curtain that is located at one end of a housing that cooperates with a first water curtain that defines a precleaning section of the housing. Varpio merely discloses a washing apparatus that comprises a prewash zone 2, followed by a main wash zone 3 and a rinsing zone 4. However, the prewash zone 2 of Varpio is not defined by an air curtain and a first water curtain as claimed. As such, all claims define over the prior art as a whole.

Favorable action on the merits is requested.

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Attached: English translation of JP 2003-017459

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